



(1 of 2)

PTO/SB/08A (10-01)

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Substitute for form 1449A/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	10/657,145
		Filing Date	September 9, 2003
		First Named Inventor	David Alexander
		Art Unit	3714
		Examiner Name	John Sotomayor
Sheet 1 of 3	Attorney Docket Number	IMMR023/04US	

U.S. PATENT DOCUMENTS					
Examiner	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number Kind Code ² (if known)			
CH		6,422,941	7/23/2002	Thomer et al.	_____
		6,160,489	12/12/2000	Perry et al.	_____
		6,111,577	8/29/2000	Zilles et al.	_____
		6,086,528	07/11/2000	Adair	_____
		5,817,107	10/8/1998	Schaller	_____
		5,690,582	11/25/1997	Ulrich et al.	_____
		5,575,781	11/19/1996	Hajianpour	_____
		5,437,607	8/1/1995	Taylor	_____
		5,438,622	7/25/1995	Gutman et al.	_____
		5,283,970	2/8/1994	Aigner	_____
		5,186,695	2/16/1993	Mangseth et al.	_____
		5,175,459	12/29/1992	Daniel et al.	_____
		5,165,897	11/24/1992	Johnson	_____
		5,022,384	6/11/1991	Freels	_____
		4,885,565	12/5/1989	Embach	_____
		4,484,191	11/20/1984	Vavra	_____
		4,464,117	8/7/1984	Foerst	_____
		4,439,182	03/27/1984	Blaine	_____
		4,333,070	6/1/1982	Barnes	_____
		4,262,549	4/21/1981	Schwellenbach	_____
	4,127,752	11/28/1978	Lowthorp	_____	
	2,972,140	2/14/1961	Hirsch	_____	

Examiner Initials*	Cite No. ¹	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Country Code ³	Number ⁴	Kind Code ⁵ (if known)			
		JP	H2-185278		7/19/1990	Taito Corporation	
		JP	H4-8384		1/13/1992	Epoch Co. and Key- Planning Co.	
		JP	H7-24147		1/27/1995	Sega Corporation	
		JP	H5-192449		8/3/1993	Taito Corporation	

Examiner Signature	Chanda L. Harris	Date Considered	8/15/05
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OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	
		PATRICK, "Design, Construction, and Testing of a Fingertip Tactile Display for Interaction with Virtual and Remote Environments," <i>Master of Science Thesis</i> , MIT, Aug. 1990, archived Nov. 8, 1990.	
		CALDER, "Design of A Force-Feedback Touch-Introducing Actuator For Teleoperator Robot Control," <i>Bachelor of Science Thesis</i> , MIT, May 1983, archived June 23, 1983.	
		WIKER, "Teletouch-Display Development: Phase 1 Report," <i>Technical Report 1230</i> , Naval Ocean Systems Center, San Diego, July 1988.	
		BLISS, "Optical-to-Tactile Image Conversion for the Blind," <i>IEEE Transactions on Man-Machine Systems</i> , Vol. MMS-11, No. 1, March 1970.	
		JOHNSON, "Shape-Memory Alloy Tactile Feedback Actuator," <i>Armstrong Aerospace Medical Research Laboratory</i> , AAMRL-TR-90-039, August, 1990.	
		KONTARINIS, et al., "Tactile Display of Vibratory Information in Teleoperation and Virtual Environments," <i>PRESENCE</i> , 4(4):387-402, Harvard Univ., 1995.	
		AUKSTAKALNIS, et al., "Silicon Mirage: The Art and Science of Virtual Reality," ISBN 0-938151-82-7, pp. 129-180, 1992.	
		EBERHARDT et al., "Inducing Dynamic Haptic Perception by The Hand: System Description and Some Results," <i>USC-Vol. 55-1, Dynamic Systems and Control</i> , Volume 1, ASME 1994.	
		GOBEL et al., "Tactile Feedback Applied to Computer Mice," <i>International Journal of Human-Computer Interaction</i> , Vol. 7, No. 1, pp. 1-24, 1995.	
		PIMENTEL et al., "Virtual Reality: through the new looking glass," 2 nd Edition; McGraw-Hill, ISBN 0-07-050167-X, pp. 41-202, 1994.	
		"Cyberman Technical Specification," <i>Logitech Cyberman SWIFT Supplement to Logitech Mouse Technical Reference and Programming Guide</i> , 4/5/1994.	
		OUHYOUNG et al., "The Development of A Low-Cost Force Feedback Joystick and Its Use in the Virtual Reality Environment," <i>Proceedings of the Third Pacific Conference on Computer Graphics and Applications, Pacific Graphics '95</i> , Seoul, Korea, 21-24 August 1995.	
		KACZMAREK et al., "Tactile Displays," <i>Virtual Environment Technologies</i> , Chap. 9, pp. 349-414.	
		LAKE, "Cyberman from Logitech," at http://www.liblio.org/GameBytes/issue21/greviews/cyberman.html , 1994.	
		"Component Maintenance Manual With Illustrated Parts List, Coaxial Control Shaker Part No. C-25502," Safe Flight Instrument Corporation, Revised 28 January 2002 (3 pages).	

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		“Technical Manual Overhaul Instructions With Parts Breakdown, Coaxial Control Shaker Part No. C-25502,” Safe Flight Instrument Corporation, Revised 15 July 1980 (23 pages).	
		SCANNELL, “Taking a Joystick Ride,” Computer Currents, Boston Edition, Vol. 9, No. 11, November 1994	
		YAMAKITA, et al., “Tele-Virtual Reality of Dynamic Mechanical Model,” Proceedings of the 1992 IEEE/RSJ International Conference on Intelligent Robots and Systems, Raleigh, NC, July 7-10, 1992	
		NOLL, “Man-Machine Tactile,” SID Journal, July/August 1972 Issue.	
		ROSENBERG, “Virtual Fixtures: Perceptual Overlays Enhance Operator Performance in Telepresence Tasks,” Ph.D. Dissertation, Stanford University, June 1994.	

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		Number	Kind Code ² (if known)		
CH		6,223,100		Green	04-2001
CH		5,995,738		DiGioia, III et al.	11-30-1999
CH		5,967,790		Strover et al.	10-19-1999
CH		5,956,040		Asano et al.	09-21-1999
CH		5,951,301		Younker	09-14-1999
CH		5,947,743		Hasson	09-07-1999
CH		5,945,056		Day et al.	08-31-1999
CH		5,941,710		Lampotang et al.	08-24-1999
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CH		5,891,131		Rajan et al.	04-06-1999
CH		5,890,908		Lampotang et al.	04-06-1999
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¹ Unique citation designation number.² See attached Kinds of U.S. Patent Documents.

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CH		5,721,566		Rosenberg et al.	02-24-1998
CH		5,704,791		Gillio	01-06-1998
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CH		5,687,259		Linford	11-11-1997
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CH		5,320,538		Baum	06-14-1994
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CH		5,311,422		Loflin et al.	05-10-1994
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		4,930,770		Baker	06/05/1990
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² For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

³ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible.

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		Number	Kind Code ² (if known)				
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¹ Applicant is to place a check mark here if English language Translation is attached.

Examiner Signature	<i>Chanda L. Harris</i>	Date Considered	8/15/05
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			First Named Inventor	David Alexander	
			Group Art Unit	3714	
			Examiner Name	John Sotomayor	
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